

1561 ACATCTCCAATGGGAGTAACACTTCTTCGGAAGGTGGCCCAGATGCTGTCATTATTGGAATGACCAAGATCCCTGTCATTGAAAATCCCCAGTACTTTGGCATCACAAGTCA 453 I S N G S N T P S S S E G G P D A V I I G M T K I P V I E N P Q Y F G I T N S Q FIG. 1A CAGCGAATGACATCGGGGACCACGAACAGAAGTAATGAAATCCCTTCCACAGACGTCACTGATAAAACGGTCGGGAACATCTCTGGGTCTATGCTGAGTGGTGGTTGCGTCTGTGG A N D I G D T T N R S N E I P S T D V T D K T G R E H L S V Y A V V V I A S V V TGGGATTTTGCCTTTTGGTAATGCTGTTTCTGCTTAAGTTGGCAAGATTTGGCATGAAAGGCCCACCTCCGTTATCAGCAATGATGATGACTCTGCCAGCCCACTCCATC G F C L L V M L F L L K L A R H S K F G M K G P A S V I S N D D D S A S P L H H TGCATTITGCACCAACTATCACATTTCTCGAATCTCCAACCTCAGACACCACCACTTCCATTCACTGTGAAAGGCAACCCAAAACCAGGGCTTCAGAGTTCTATAACGGGGCAA H F A P T I T F L E S P T S D H H W C I P F T V K G N P K P A L Q W F Y N G A I ACGAAGATGATGATGAGATGAGGACTGAGAAATCTGACAATTGTGGATTAAAATTTGTGGCTCATAAAGCATTTCTGAAAAACAGCAACCTGCAGCACCTGACATTTTA E D D V E A Y V G L R N L Q H I N F T CCCGAAACAAACTGACGAGTTTGTCTAGGAAACATTTCCGTCACCTTGACTGTTGATCCTGGTGGGCAATCCATTTACATGCTCCTGTGACATTATGTGGATCAAGACTCTCT R N K L T S L S R K H F R H L D L S E L I L V G N P F T C S C D I M W I K T L Q CAAGCCACACACAGGGGTCCTTAAGGATAACTAACATTTCATCCGATGACAGTGGGAAGCAGATCTTGTGTGGCGGAAAATCTTGTAGGAGAAGATCAAGATTCTGTCAACCTCACTG S H T Q G S L R I T N I S S D D S G K Q I S C V A E N L V G E D Q D S V N L T V CCTGGATAAGGTGGCATGGACCCGCCATGGCGGCTTCTGGTTGTGGGCTTCTGGAGGCCGCTTTCGCCTGTCCCACGTCCTGCAAATGCAGTGCCTCTCGGA WIRWHGPANA CCTCGCCATGGCGCGCTTCTGGGCTTCTGGGCTTCTGGAGGCCGCTTTCGCCTGTCCCACGTCCTGCAAATGCAGTGCCTCTCGGA TCTGGTGCAGCGACCTTCTCCTGGCATCGTGGCATTTCCGAGATTGGAGCCTAACAGTGTAGAACTCCTGAGAACATCACCAAAATCTTTCATCGCAAACCAGAAAAGGTTAGAAATCATCA W C S D P S P G I V A F P R L E P N S V D P E N I T E I F I A N Q K R L E I N GGAAGGTTTAAAGAAGACCGCAAAGCGCAGGGAAGGCCTCCCGGGTGGGGGAAAGCGGCCGGTGCAGCGGGGGACAGCACTCGGGCTGGCACTGGCTAGGGATGTCGT 1 c 1321 1441 601 961 241 13 361 481 93 721 121

TTACCCTTTCTTTTGAATCAATCTGGCTTCTGCATTACTATTAACTCTGCATAGACAAAGGCCTTAACAAACGTAATTTGTTATATCAGCAGACACTCCAGTTTGCCCACCACAACAAAAACTAAAC TCATACCTTCTTCAGAACTTGGCCAAGGCATCTCCGGTCTACCTGGACATTCTAGGCTAGGGCCCTTTTCCCCAGACGATCCTTCCCAACGTACTCCTCAGACGGGCTGAGAGATG 2641 AACATCTTTTAACTGCCGCTGGAGGCCACCAAGCTGCTCTCACTCTGACAGTATTAACATCAAAGACTCCGAGAAGCTCTCGAGGGAAGCAGTGTGTACTTCTTCATCCATAGACA AGAGCATCATGTACAGGAAATTCACGACGACGACGACGTCTGGGGGGTCGTGTGTGGGAATTTTCACCTATGGCAAACAGCCCTGGTACCAGCTGTCAAACAATGAGGTGA SIMYRKFTTESDVWSLGVVLWEVL TGGTCGGGGAGAACTTGCTGAAAAATCGGGGACTTTGGGATGTCCCGGGACGTGTACAGCACTACAAGGTCGGTGGCCACACAATGCTGCCCATTCGCTGGATGCCTCCAG V G E N L L V K I G D F G M S R D V Y S T D Y Y R V G G H T M L P I R W M P P E 2041 ACCGGCCACGGAACTGACGCAGATGCTGCATATAGCCCAGCAGATCGCCGGGGCATGGTCTACCTGGCGTCCCAGCACTTCGTGCACGCGATTTGGCCACCACGAACTGCC 613 P P T E L T Q S Q M L H I A Q Q I A A G M V Y L A S Q H F V H R D L A T R N C L 1801 AGCAGGACAAGATCTTGGTGGCAGTGAAGGATGCCAGTGACAAGGACTTCCACGGTGAGGCCGAGCTCCTGACCACCACCATGAGCACATGGTCAAAGT 533 Q D K I L V A V K T L K D A S D N A R K D F H R E A E L L T N L Q H E H I V K F TCTATGGCGTCTGCGTGGAGGCGACCCCTCATCATGAGTACATGAGGACCTCAACAAGTTCCTCAGGGCACACGGCCCTGATGCCTGATGGCTGAGGGGA Y G V C V E G D P L I M V F E Y M K H G D L N K F L R A H G P D A V L M A E G N 2401 2161 693 1681 493

1631 GTTGGCTTATCCCGGGAAGTGCTGTTATCTGGGATTTTCTGGTAGATGTGGGCGGTGTTTGGAGGCTGTACTATATGAAGCCTGCATATACTGTGAGCTGTGATTGGGGAACACCAATG

FIG. 1C

- 1 GGATCCGCGTCGGAGATGTTCTCCCAGCCAAGTGTAGTTTCTGGCGATFTTCTTGCTGGGAAGCGTCTGGACTATGTGGGCTCCGTGCTGCCTTGCCCTGCAAAT -31
 - 121 TGTGTCTGCAGCAAGACTGAGATCGGCGGCGGACGATGGGAACCTCTTCCCCCTCGGAAGGGCAGGATTCAGGGAACGAATGGGAACGCCAATATCAACATCACGGAC 5 C V C S K T E I N C R R P D D G N L F P L L E G Q D S G N S N G N A N I N T D
- 241 ATCTCAAGGAATATCACTTCCATACACATGAGAACTGGCGAGTCTTCACACGCCGTGGACATGGAGCTCTACACGGACTTCAAAAGCTGACCATCAAGAACTCAGGACTT 45 I S R <u>N I T S</u> I H I E N W R S L H T L N A V D M E L Y T G L Q K L T I K N S G L
- 361 CGGAGCATTCAGCCCAGAGCCCCCATTTGCGTTATATAAA<u>CCTGTCAA</u>GTAACCGGCTCACCACACTCTCGTGGCAGCTCTTCCAGAGGCTGAGTCTTCGGGAATTG 85 R S I Q P R A F A K N P H L R Y I N L S S N R L T L S W Q L F Q T L S L R E L
- - 601 CAGCTTCCTCTTCCGCATGAACATCAGTGAGCCTTCCTGAGATCAGCGTGAGCCACGTGACCGTACGAGGGTGACAATGCTGTAATCACTTGCAATGGCTTCGAA 165 Q L P L F R M <u>N I S Q</u> C D L P E I S V S H V <u>N L T V</u>] R E G D N A V I T C <u>N G S G</u>
- TCACCCCTTCCTGATGTGGATGGTGGTGGTGGTGGTCCATCACCAGACCAATCTGAACTGGACCAATGTTCATGCCATCAACTTGAGGTGAATGTGAAGAGT SPLPDVDWIVTGL
- 961 CGCCTGGAGCACTGCATCGAGTTTGTGGTGGCTGCCACCACCACCTGGCTGCACAATGGGCAGCCTCTGCGGGAGTCCAAGATCATCCATGTGGAATACTACCAAGA 285 R L E H C I E F V V R G N P P P T L H W L H N G Q P L R E S K I I H V E Y Y Q E
- 1201 CTCAAGGAGCCCTTTCCAGAGAGCACGGATAACTTTATCTTGTTTTGACGAAGCACTCCCACACCTGTGACCCCACAAACCAGAAGAAGAAGACACTTTTGGGGTATCCATAGCA 365 L K E P F P {E S T D N F I L F}D E V S P T P P I T V T H K P E E D T <u>F G V S I A</u>
- 1321 GITGGACITGCIGCTGTGTCCTGTTGGTGTTCTTCTTCGTCAACAATATGGTCGACGTCCAAAITTGGAATGAGGGTCCCGTGGCTGTCATCAGTGGTGAGGAAG 405 <u>V G L A A F A C V L L V V L F V M I</u> N R Y G R R S K F G M K G P V A V I S G E E
- 1441 GACTCAGCCAGCCACCCACACCACGCCACCACGCCCTCGTCACTGGATGCCGGGCCCGACACTGTGGTCATTGGCATGACTCGCTTCCTTGAGAACCCCCAG 445 D S A S P L H H I N H G I T T P S S L D A G P D T V V I G M T R I P V I E N P Q

FIG. 2A

1561 TACTTCCGTCAGGGACACAACTGCGGACACGTATGTGCACATTAAGAGGAGACATCGTGGCGAGAACTGGGTGAGGGAGCCTTTGGAAAGGTCTTCCTGGCC 485 Y F R Q G H N C H K P D T Y V Q H I K R R D I V L K R E | L G E G A F G K V F L A

CAGCATGAGCACATTGTCAAGTTGTGGGGGGATGGGGACCCCTCATCATGGTCTTTGAATACATGAAGCATGGAGACCTGAATAAGTTCCTCAGGGCCCATGGGCCAAAT Q H E H I V K F Y G V C G D G D P L I M V F E Y M K H G D L N K F L R A H G P D

1921 GCAATGATCCTTGTGGATGGCCAGGCCAAGGGTGAGCTGGGCTCTCCCAAATGCTCCACATTGCCAGTCAGATCGGCTATGGTGTACCTGGCCTCCAGCACTTT 605 A M I L V D G Q P R Q A K G E L G L S Q M L H I A S Q I A S G M V Y L A S Q H F

2041 GTGCACCGAGACCTGGCACCTGGTTGGAGCAATCTGCTAGTGAAGATTGGGGACTTCGGCATGTCCAGAGATGTCTACAGCACGGATTATTACAGGCTCTTTAATCCA 645 V H R D L A T R N C L V G A N L L V K I G D F G M S R D V Y S T D Y Y R {L F N P

2161 TCTGGAAATGATTTTTGTATATGGTGAGGAGGAGGACACCATGCCTCCCTGAAAGCCTCCTGAAAGCATCATGTACCGGAAGTTCACTACAGAGAGGATGATGATATGGAGC 685 S G N D F C I W C E}V G G H T M L P I R W M P P E S I M Y R K F T T E S D V W S

TICGGGGIGAICCTCIGGGAGAICTICACCTAIGGAAGCAGCCAIGGTTCCAAACACGGAGGTCATTGAGTGCATTACCCAAGGTCGTGTTTTGGAGGGGCCCCGAGTCTG F G V I L W E I F T Y G K Q P W F Q L S N T E V I E C I T Q G R V L E R P R V C 725 F G

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FIG. 2B

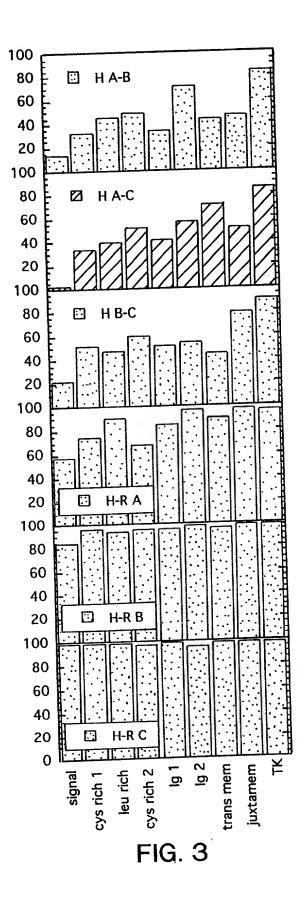
1600 TGGGTCTTTTCAAACATAGACAATATTAAACTTGAAGACAATAGAGATCATCTAGTCCCATCAACTCACTATATATGAGGAACCTGAGGTCCAGAGTGGGGAAGTCTT 498 W V F S N I D N H G I L N L K D N R D H L V P S T H Y I Y E E P E V Q S G E V S

1720 TACCCAAGGTCACATGGTTTCAGAGAAATTATGTTGAATCCAATAGCCTTCCGGACATTCCAAGCCTCTTAACCATGGCATGTTGAGGATGTCTATGTTTATTTCAGCAAAGGA 538 Y P R S H G F R E I M L N P I S L P G H S R P L N H G I Y V E D V N V Y F S K G

1840 CGTCATGGCTTTTAAAAAC 578 R H G F O

FIG. 2C

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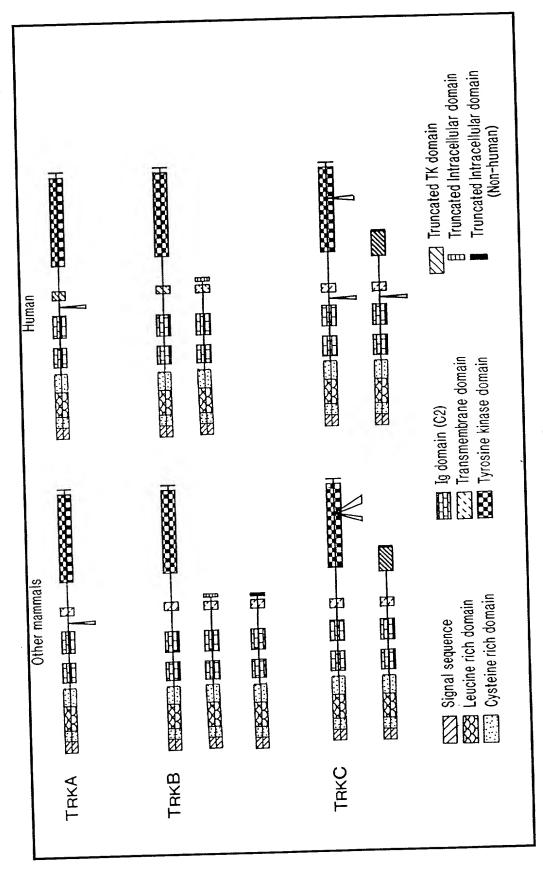


FIG. 4

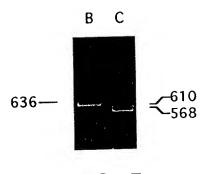


FIG. 5

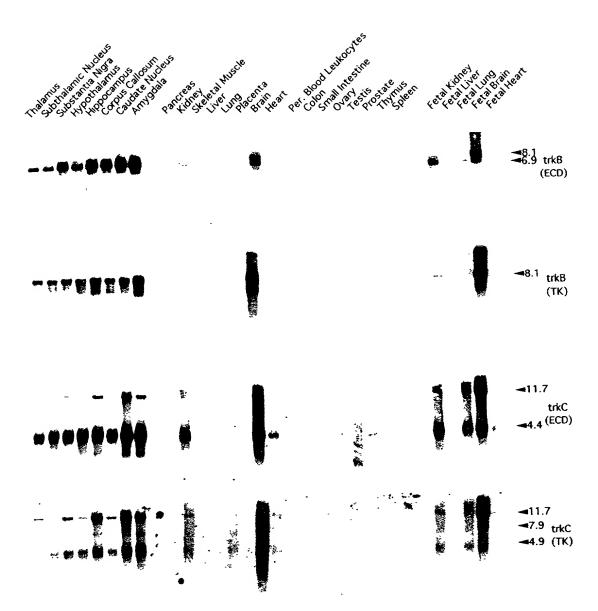
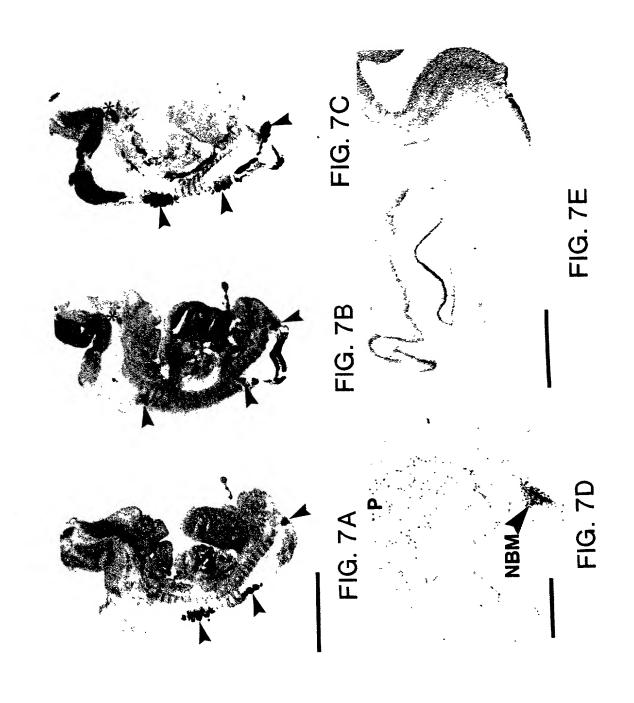
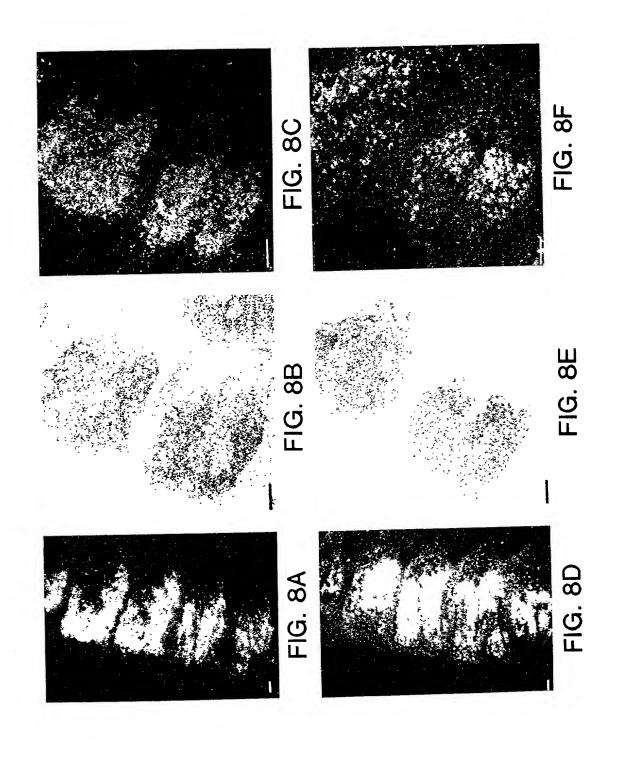
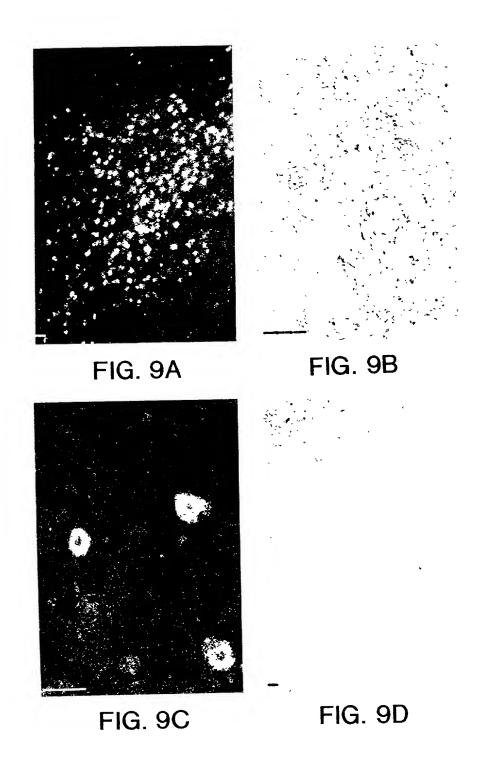
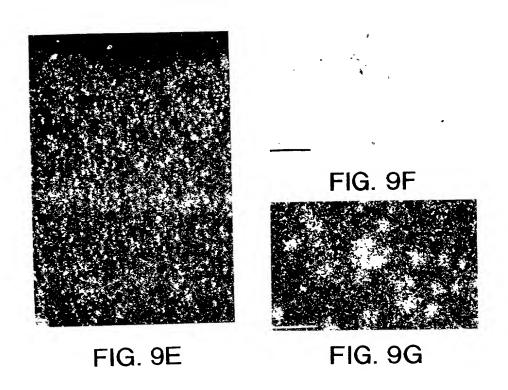


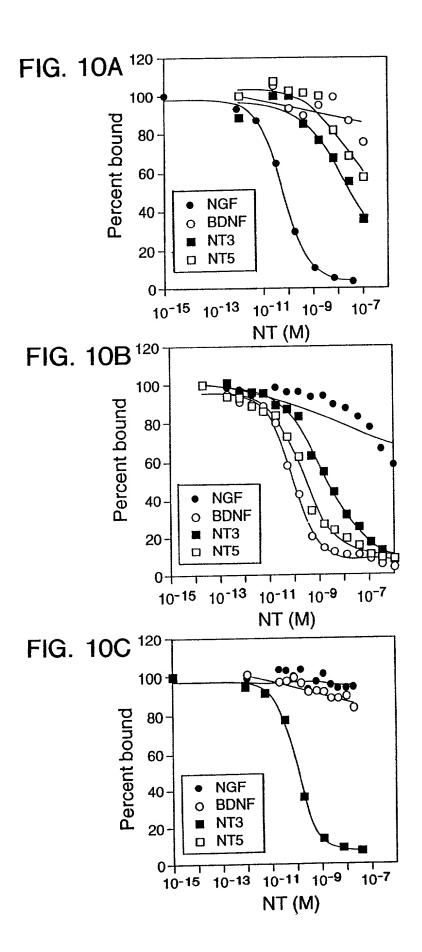
FIG. 6

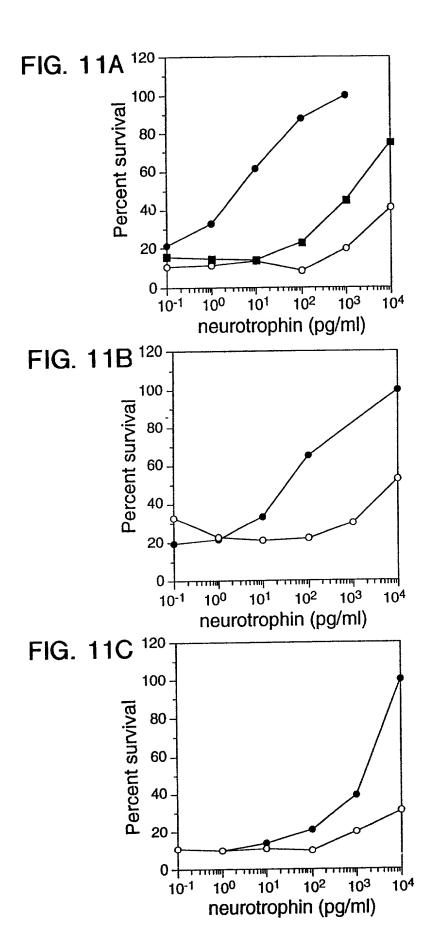












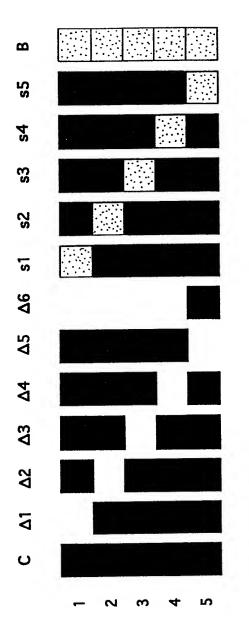
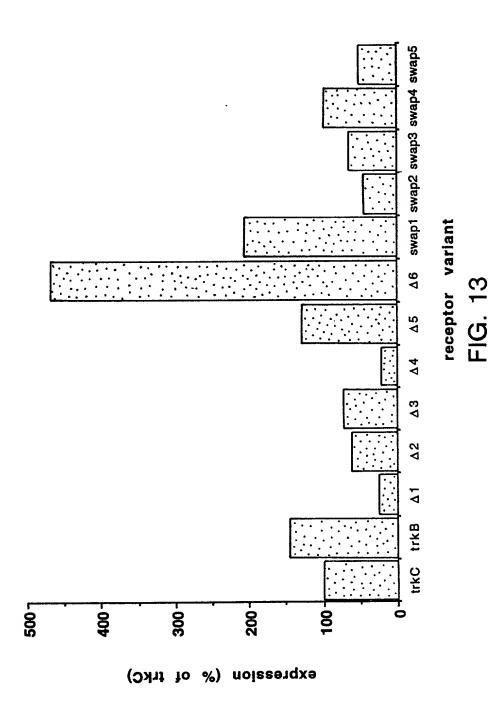
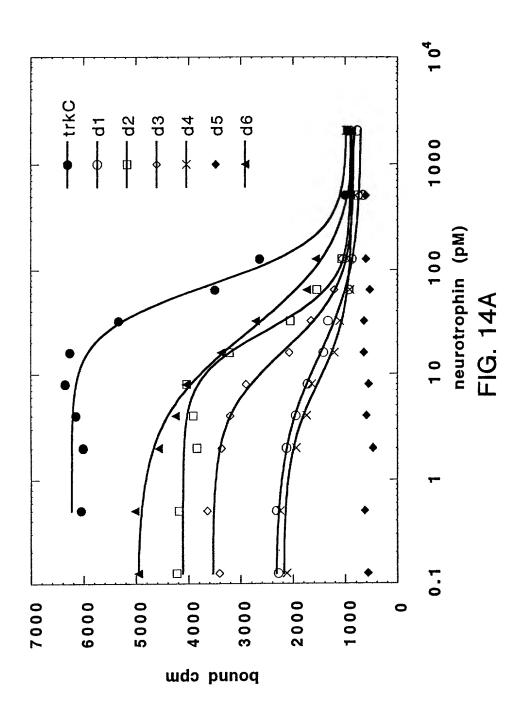
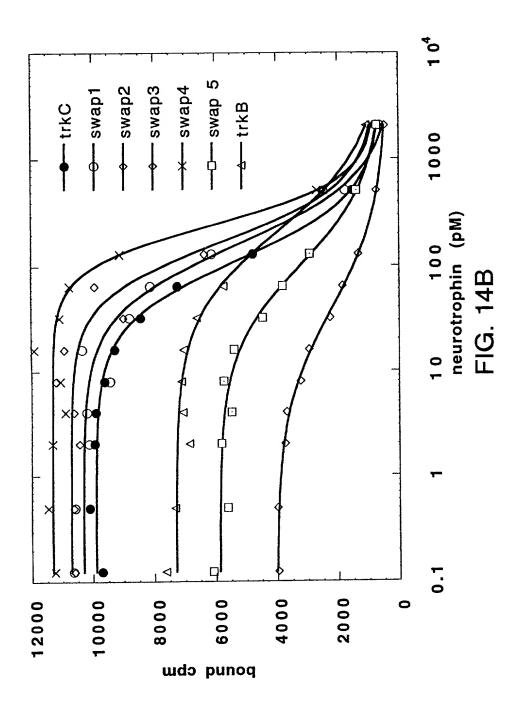
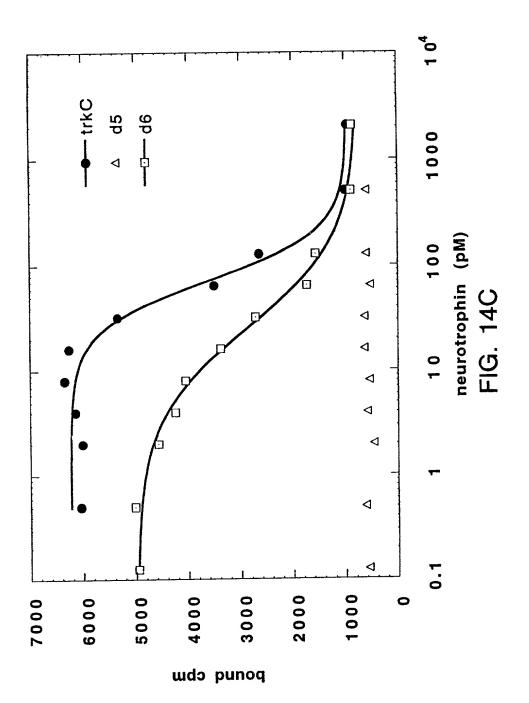


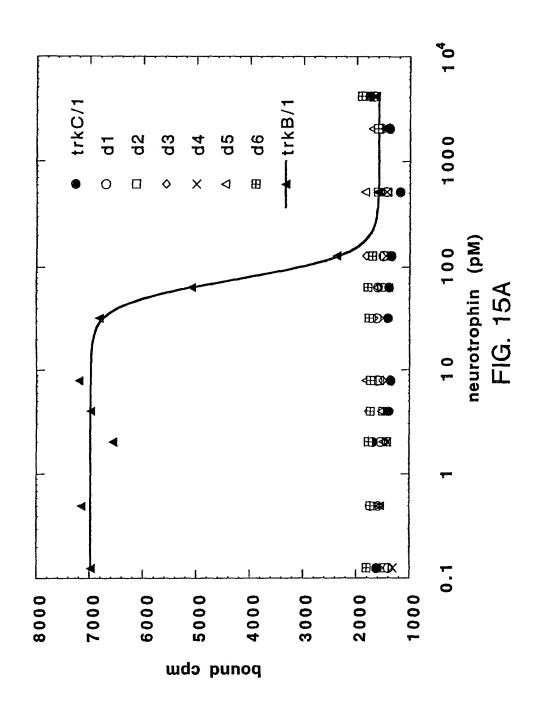
FIG. 12

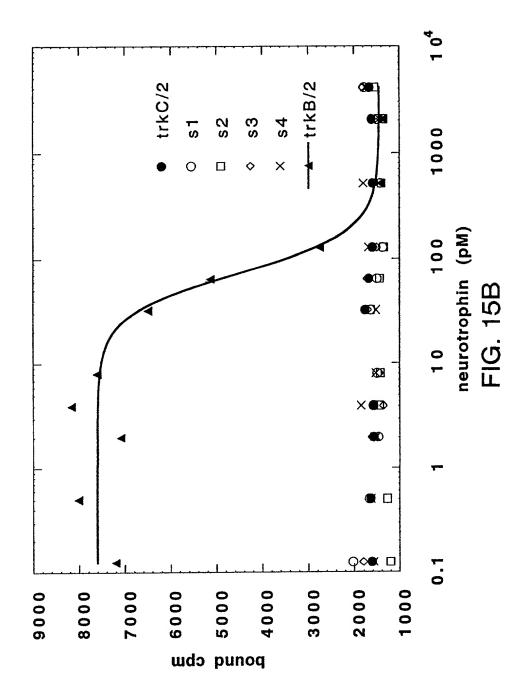


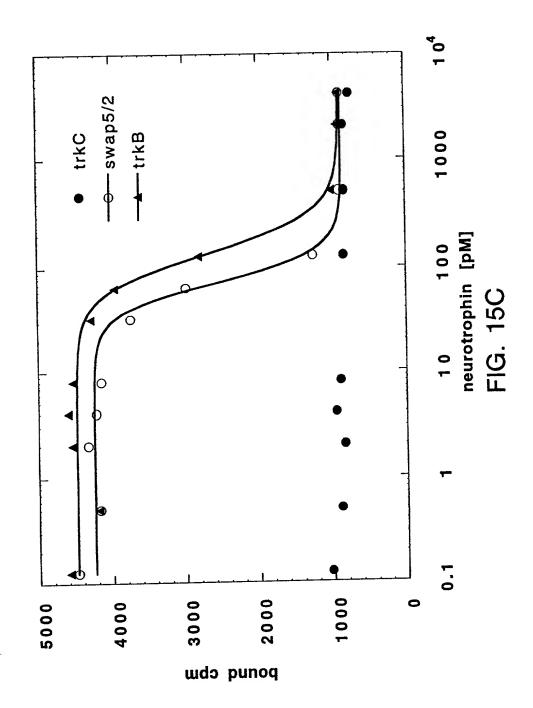












A G A A P C P D A C C P R A A F A C P T S - C K L D Y V G S V L A C P A N - C V	I V V D V V V	I R E E G D D C L R E E G D D C L R E E G D D C L R E E G D D C L R E E G D N S E E E G D N S E E E G D N S E E E G D N S E E E G D N S E E E G D N S E E E G D N S E E E E G D N S E E E E G D N S E E E E E E E E E E E E E E E E E E	LT LANVISD LN RKNLICWAEND LRIINISSD DSGKOISCVAENL
X X A A A A A A A A A A A A A A A A A A	Cysteine Mich I DGALDSLHHLPG PSPGIVAFPRLEPNSVD PDDGNL.FPLLEGODSGNSNG CLGELRNLTIVKSGLRFVAP EAYVGLRNLTIVDSGLKFVAH ELYTGLOKLTIKNSGLRSIOP	OGLSLOELVLS RHLDLSELILV OTLSLRELOLE HMPNASCGVPT NLOIPNCGLPS RMNISOCDLPE	ELEOSATVMKS GGLPSLG NLVSKHMNET SHTOG - S
TYKA 1 M L R G G R R G D L G TYKB 1 · · · · · M S S W I R TYKC 1 · · · · · · M D V S L ·	HGSSGLRCTR-CSDPCSASRIWCSDPCSKTEINCRRPTAR 78 HLOHLELRDLR 774C 90 SLHTLNAVDME	NALESLSWKTV NKLTSLSRKHF NRLTTLSWOLF 177 LNESSKNIPLA 177 LNESSKNIPLA 177 LNESSKNIPLA	G L E Q A G M I L T II

FIG. 16A

000 **22** × × 0 × -004 X X ပ د z 2 H 4 - H I I I V I I KVFLAECY **ex ex** Y T L L z œ X L A > ပ ط ا w GEGAFGKVFLAE KVFLA ¥ , * ~ - EF - N P E D P I P D I N AVGLAVFACLFLSTLLLVLN z Z O × x I. S V Y A V V V I A S V V G F - C - L L V M L F L L - T F G V S I A V G L A A F A C V L L V V L F V M z z ပ G S O z zz GAFG GAFG _ GGPDAVII 0 DIVVI > H L d > LSPTE-GKGSGLO PSSSEGGPDAVII PSSLDAGPDTVVI CLLFNKPTHY Ω Juxtamembrane PDVIYEDYGTAA EST-DNF-ILF Transmembrane w 0 2 G **z** 0 OYFGITNSOLK POTFVOHIKRHNIVLKREL AVEDOGHNCHK POTYVOHIKRRDIVLKREL C L R L P HHMCI w × I ب • 2 X G G S HIKRRDIV SVOVNVSFPASVO-LHTAVEM SVNLTVHFAPTITFLESPTSD SVALTVYYPPRVVSLEEPELR I w I 2 L _ S တ . ۵. N G S I <u>ა</u> > **z** اد 1 4 6 V S V J GAILNESKYICTKIH - - V T N G O P L R E S K I I H V E Y Y - - O E G ٥ z FMIL N O · GANP u TSFIFTEFLEPAA HISI **×** z Immunoglobulin II-• A C < H 4 エ **x x** 0 _ _ • s a a ... - TSGDPVEKKDET-IPSTDVTDKTGREH - PPITVTHKPEED-E S S • ⋖ ⋖ ∢ ۵. \sim \sim 3 A SINAAFM - -ပ္ 🗅 Ω \Box w ய பெயி P.AVLAP PASVISN g w S g z **⊷** > 1 0 0 ⋖ > V S ပ م D Z V ა > ى > Z U z > z œ ی ပ ⋖ 370 448 466 466 387 271 272 290 春春春 養養養 新春

FIG. 16B

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0 I A I DVWSFGVVLWEI DVWSLGVVLWEI 0 × 1 × OMLHIA 0 L L A V مہ مہ **~** • • **ex ex ex ≻ ≻** >-G X Ω **a a** S HIVKFYGVCV SGEDV-APGPLGLG. EGNPP---TELTOS S * ^ Q S ပ S HIVKFYGVC SS **≻ ≻** > > S S 00 w PPESIMYRKFITE PPESIMYRKFITE PPESIMYRKFITE **ac ac ac** > တ တ တ xxx တ ပ ပ <u>... u. u.</u> ш REAELLTMLOHO REAELLTNLOHE REAELLTNLOHE 999 Ģ 9 ပ MYYLAGLHFYHRDLATRNCLYGOGLYYKI MYYLASOHFYHRDLATRNCLYGENLLYKI MYYLASOHFYHRDLATRNCLYGANLLYKI) A K L L A G G) A Y L M A E G) A M I L V D G م. مـ مـ 000 **a a a** a. a. a. ပ ပ ပ 0 I 0 G D L N R F L R S H G G D L N K F L R A H G G D L N K F L R A H G 14. u. RKD α × Ω 0 E V G G ပ 9 9 7 - . ∢ KMLVAVKALKDPTLAA 9 > . . KILYAVKTLKDASDN v • 3 LLMYFEYMRHG L I M V F E Y M K H G K A L K • **Tyrosine Kinase** . u • Ω M V F E Y z ၒ 9 z ပ 631 663 566 566 532 素な 香香素

FIG. 16C

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R K N I K G I H T L L O N L A K A S P V Y L D I L R L N I K E I Y K I L H A L G K A T P I Y L D I L

SIKDYHARLGALAGAPPVYLDVL

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R A C P P E V Y A 1 M R G C W O R E P R T C P O E V Y E L M L G C W O R E P R V C P K E V Y D V M L G C W O R E P

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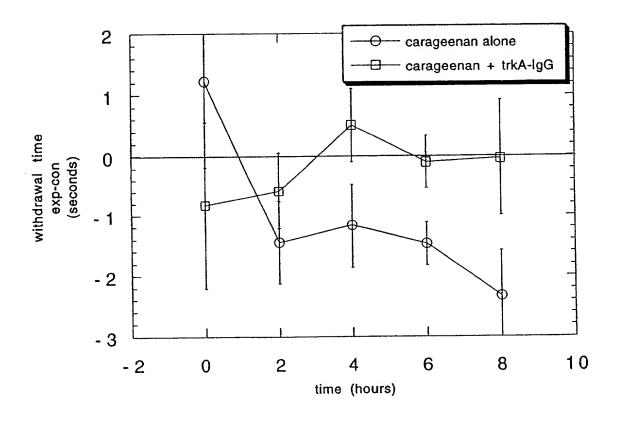


FIG. 17

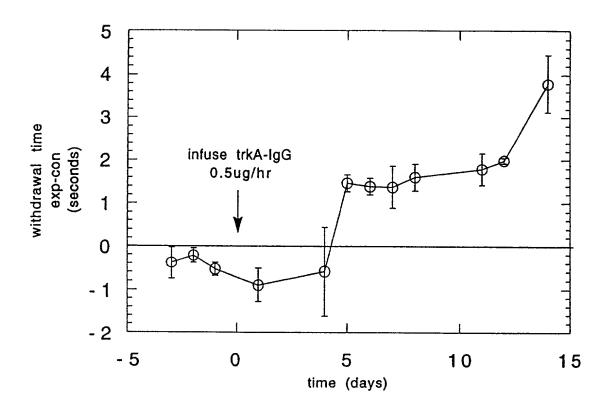


FIG. 18